JMYT-369US

Appln. No.: 10/585,808

Amendment Dated May 21, 2009

Reply to Office Action of January 21, 2009

<u>Amendments to the Claims:</u> This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A polymer wherein at least 80% of the <u>monomer</u> repeat units comprise

- a) an ion-conducting region having consisting of an aromatic backbone of at least one aromatic group, wherein at least one <u>pendant</u> ion-conducting functional group is attached to each aromatic group in the aromatic backbone; and
- b) a spacer region—having consisting of an aromatic backbone of at least four aromatic groups, wherein no ion-conducting functional groups are attached to the aromatic backbone,

such that at least 80% of the polymer chain contains alternate ion conducting and spacer regions along the length of the chain.

- 2. (Currently Amended) A polymer according to claim 1, wherein at least 95% of the monomer repeat units comprise the ion-conducting region and the spacer region.
- 3. (Previously Presented) A polymer according to claim 1, wherein the at least one aromatic group in the ion-conducting region is selected from the group consisting of phenylene, napthylene and anthracenylene groups.
- 4. (Currently Amended) A polymer according to claim 1, wherein each aromatic group—is in the aromatic backbone of the ion-conducting region is adjacent to an electron-donating group.
- 5. (Original) A polymer according to claim 4, wherein the electron-donating group is an ether group.
- 6. (Previously Presented) A polymer according to claim 1, wherein the at least one ion-conducting functional group is a sulphonic acid group.
- 7. (Previously Presented) A polymer according to claim 1, wherein the ratio of the number of aromatic groups in the spacer region to the number of aromatic groups in the ion-conducting region is at least 2:1.

JMYT-369US

Appln. No.: 10/585,808

Amendment Dated May 21, 2009

Reply to Office Action of January 21, 2009

8. (Previously Presented) A polymer according to claim 1, wherein the at least four aromatic groups in the spacer region are selected from the group consisting of phenylene, napthylene and anthracenylene groups.

- 9. (Previously Presented) A polymer according to claim 1, wherein the at least four aromatic groups in the spacer region are connected by electron withdrawing groups.
- 10. (Original) A polymer according to claim 9, wherein the electron-withdrawing groups are sulphone or ketone groups.
- 11. (Previously Presented) A polymer according to claim 1, which has an equivalent weight of less than 800gmol⁻¹.
- 12. (Previously Presented) A polymer according to claim 1, which has an inherent viscosity of greater than 1.0dl/g.
- 13. (Previously Presented) A polymer solution comprising a polymer according to claim 1.
- 14. (Previously Presented) A polymer electrolyte membrane comprising a polymer according to claim 1.
- 15. (Previously Presented) An electrocatalyst layer on a substrate wherein the electrocatalyst layer comprises a polymer according to claim 1.
- 16. (Previously Presented) A membrane electrode assembly comprising one or both of a polymer electrolyte membrane and an electrocatalyst layer on a substrate, wherein the polymer electrolyte membrane and the electrocatalyst layer comprise a polymer according to claim 1.